Two Decades of Measuring Environmental Concern

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Overview

I. Motivation and Theory
II. Measurement and Trend of Environmental Concern
III. Individual Differences and Country Differences
IV. Conclusion

The Problem

- Solving environmental problems like global climate change needs public support
  - Support for environmental regulation and legislation
  - Change in (voluntarily) individual behavior
- Environmental concern is an indicator for a general level of support in society

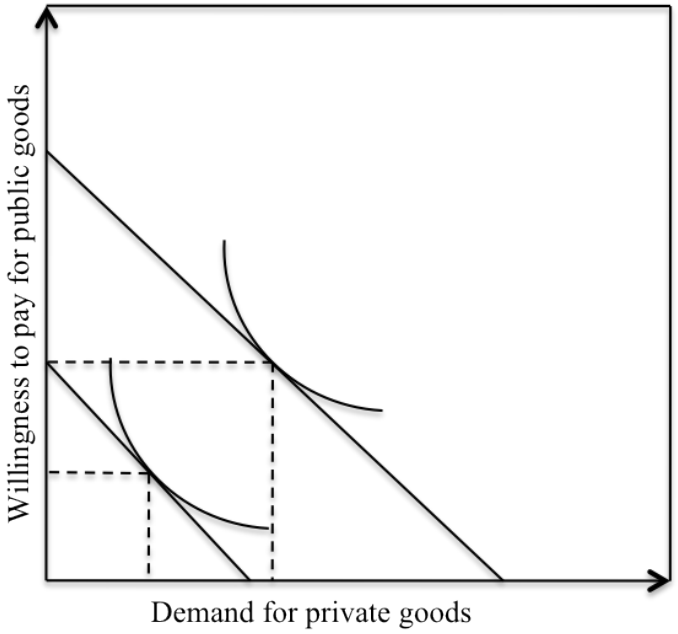
Questions

- This talk has two goals
  1. How has environmental concern changed since 1993?
  2. Can we explain level and trend?

Hypotheses

- Post-materialism hypothesis
  - In wealthier countries there is a shift from materialistic values (stability of prices) to post-materialistic values (freedom of speech, democratic participation) (Inglehart 1995)
- Globalization hypothesis
  - Developing countries have equally high or higher environmental concern than developed countries (Dunlap and York 2008)
- Affluence hypothesis
  - With higher income the demand for environmental goods should increase
  - Individuals in wealthier countries should have a higher willingness to pay for environmental goods (Franzen 2003, Franzen and Meyer 2010)

Affluence hypothesis



A shift in income (GDP) shifts the budget restriction away from orgin and leads to higher demand for private and public goods (e.g. clean environment)

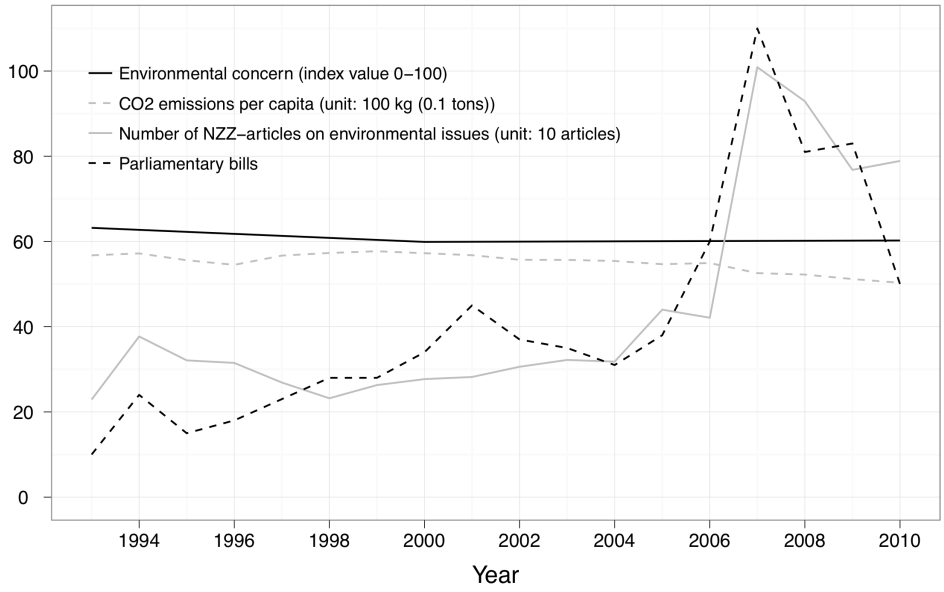
Data

- International Social Survey Programme (ISSP) in 1993, 2000 and 2010
  - conducted 2010 in 33 countries

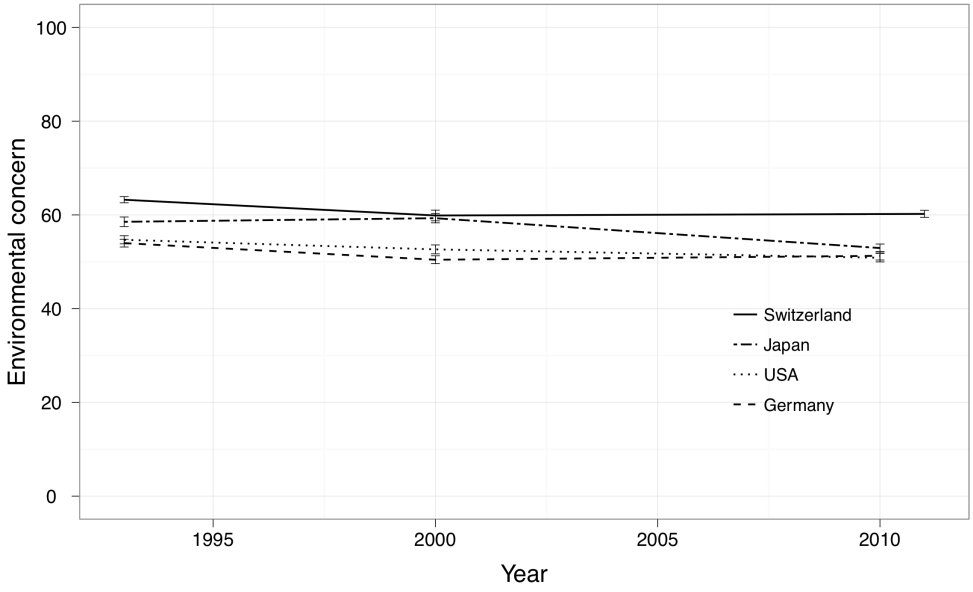
Measurement

Questions	1993	2000	2011
(1) How willing would you be to accept cuts in your standard of living in order to protect the environment? (% very and fairly willing)	69%	57%	64%
(2) How willing would you be to pay much higher prices in order to protect the environment? (% very and fairly willing)	60%	55%	57%
(3) How willing would you be to pay much higher taxes in order to protect the environment? (% very and fairly willing)	44%	34%	40%
(4) I do what is right for the environment, even when it costs more money or takes more time. (% very and fairly willing)	78%	75%	68%
(5) Modern science will solve our environmental problems with little change to our way of living. (% strong and fairly strong disagreement)	55%	52%	65%
(6) People worry too much about human progress harming the environment. (% strong and fairly strong disagreement)	56%	57%	51%
(7) We worry too much about the future of the environment and not enough about prices and jobs. (% strong and fairly strong disagreement)	54%	54%	50%
(8) In order to protect the environment the country needs economic growth. (% strong and fairly strong disagreement)	51%	44%	51%
(9) It is just too difficult for someone like me to do much about the environment (% strong and fairly strong disagreement)	66%	68%	69%
Index-value of all 9 items (value range from 0 to 100)	**63.2**	**59.9**	**60.2**

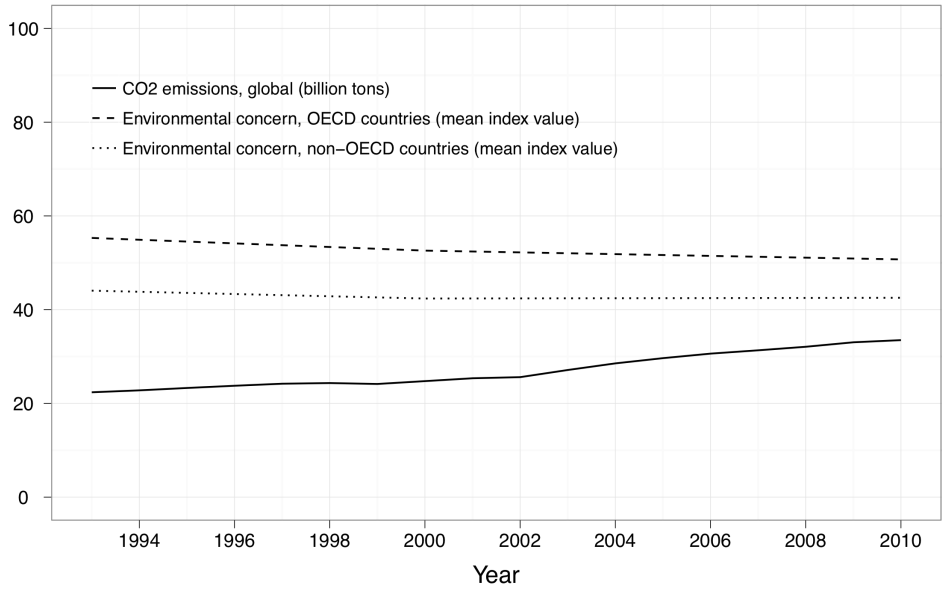
Environmental concern in Switzerland



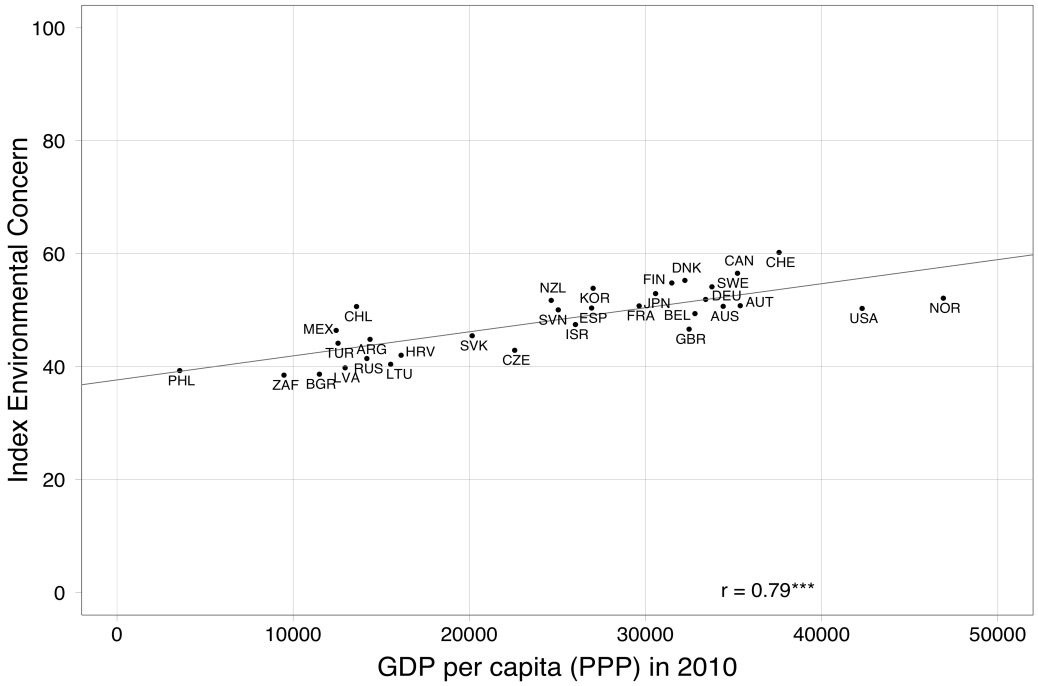
International comparison



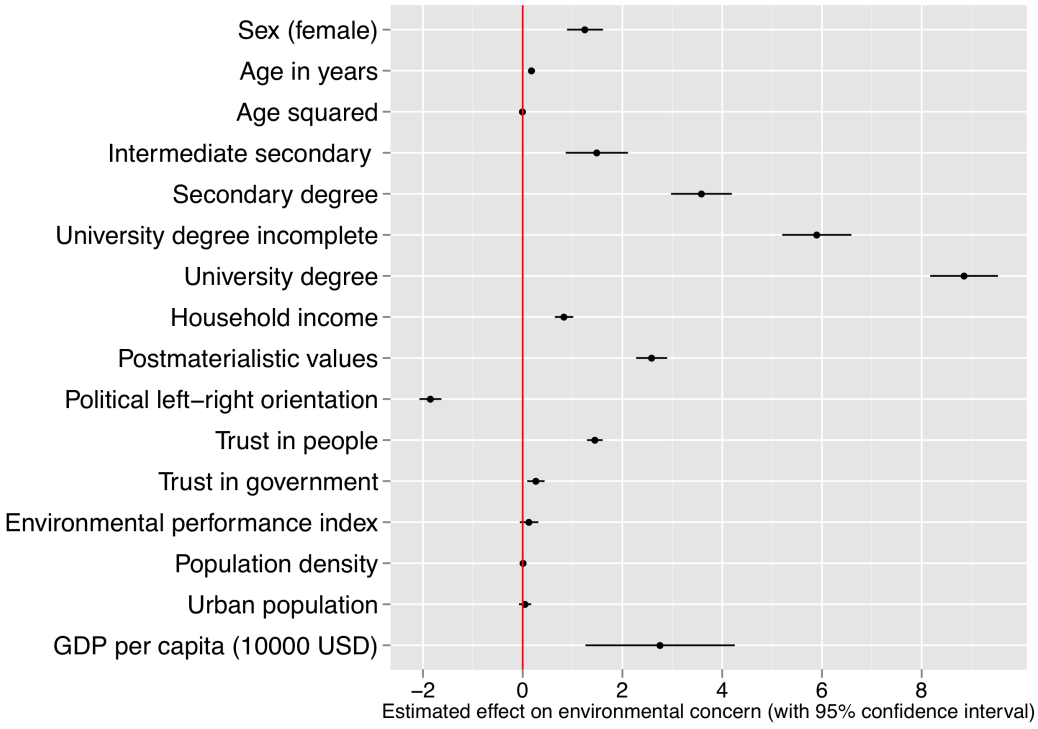
Rich vs. poor countries



Correlation



Multivariate Regression



Effect of wealth over time

> Fixed effects model with GDP per capita as explanatory variable.

Table 4: Fixed effects panel-regression (unbalanced)

	Environmental Concern per Country
log GDP per capita (PPP)	6.91***
	(2.66)
Periode effects	
2000	-3.16***
	(0.71)
2010	-6.43***
	(1.05)
R^2 within	0.65
Number of countries	25
Number of observations	65

Note: Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Conclusion

- More affluent countries have higher levels of environmental concern.
- But why did it not increase over time?
  - Bad measurement
  - Fatigue
  - Conflicting information
  - Competing issues
  - Pool depletion
- The strongest effect is education.
- How can we increase environmental concern?

The paper

Franzen, Axel, Vogl, Dominikus, Two decades of measuring environmental attitudes: A comparative analysis of 33 countries. Global Environ. Change (2013), http://dx.doi.org/10.1016/j.gloenvcha.2013.03.009.

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Appendix:

	Model 1 USA	Model 2 all Data	Model 3 all Data (income imputed)
Individual-level variables			
Sex (1=female)	1.31	1.25***	1.39***
	(1.02)	(0.18)	(0.16)
Age in years (18-80)	-0.049	0.18***	0.16***
	(0.032)	(0.035)	(0.030)
Squared age in years (18-80)		-0.0019***	-0.0017***
		(0.00037)	(0.00031)
Intermediate secondary	1.26	1.49***	1.80***
	(1.67)	(0.32)	(0.28)
Secondary degree	8.28***	3.58***	3.83***
	(2.26)	(0.31)	(0.27)
University degree incomplete	7.48***	5.90***	6.04***
	(2.00)	(0.35)	(0.31)
University degree	7.40**	8.85***	9.09***
	(2.34)	(0.35)	(0.30)
Relative income within country (Model 1: absolute income)	0.065***	0.83***	0.84***
	(0.019)	(0.094)	(0.092)
Postmaterialism	1.44	2.59***	2.57***
	(0.84)	(0.16)	(0.14)
Party affiliation (1=left, 5=right)	-3.66***	-1.85***	-1.79***
	(0.66)	(0.11)	(0.10)
General trust in people	2.01***	1.45***	1.40***
	(0.41)	(0.080)	(0.071)
General trust in government	0.45	0.26**	0.13
	(0.48)	(0.089)	(0.078)
Country-level variables			
GDP (PPP) in 1000		0.28***	0.27***
		(0.076)	(0.073)
Proportion urban population		0.048	0.043
		(0.063)	(0.060)
Population density		0.0079	0.0081
		(0.0055)	(0.0052)
Environmental Performance Index		0.13	0.13
		(0.095)	(0.091)
Constant	49.0***	18.8*	19.8**
	(3.32)	(7.99)	(7.63)
Standard deviation			
country level		3.65***	3.50***
individual level		13.4***	13.4***
Intraclass correlation (ICC)			
null model		0.16	0.15
model with covariates		0.069	0.064
Explained variance			
country level		0.64	0.64
individual level		0.12	0.11
Adj. R^2	0.15		
Number of countries	1	31	31
Number of observations	872	21646	27460